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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/577,327	04/02/2007	Youchun Yan	059-490-5031	4960
9629 7590 04/28/2009 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004				
EXAMINER				
KRAUSE, ANDREW E				
ART UNIT		PAPER NUMBER		
1794				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/577,327

Applicant(s)

YAN ET AL.

Examiner

ANDREW KRAUSE

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)
Paper No(s)/Mail Date 4/20/27.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 4/2/07 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered where crossed out.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 1 recites the limitation "the emulsion" in line 1. There is insufficient antecedent basis for this limitation in the claim. It is suggested to edit line 1 to recite "the fat continuous emulsion" to ensure proper antecedent basis.

5. Claim 1 recites the limitation "said material being obtainable" in lines 2-3. This limitation renders the scope of the claim indefinite, as it is unclear if it requires that the

material is obtained as a pine needle extract, or if it is indicating that a pine needle extract is a possible source of the material.

6. Claim 8 recites the limitation "wherein the fat phase displays a solid fat content (measured by NMR on a non-stabilized fat) at 5 C (=N5) of >10, preferably greater than 20, and a solid fat content at 35 C (=N35) of <20, preferably <10, most preferably <5." It is apparent that the fact pattern of the present case is similar to that of *Ex parte Slob* (PO BdApp) 157 USPO 172, where it was held that [c]laims merely setting forth physical characteristics desired in an article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics; thus, the expression "wherein the fat phase displays a solid fat content (measured by NMR on a non-stabilized fat) at 5 C (=N5) of >10, preferably greater than 20, and a solid fat content at 35 C (=N35) of <20, preferably <10, most preferably <5." is too broad and indefinite since it purports to cover everything which will perform the desired functions regardless of its composition, and, in effect, recites compounds by what it is desired that they do rather than what they are.
7. Additionally, the scope of claim 8 is indefinite, as no units are given to describe the solid fat content desired (i.e. weight percent).

8. Claim 9 recites the limitation, “wherein the fat phase comprises at least two components (D) and (E), (D) having an N20>20...” It is apparent that the fact pattern of the present case is similar to that of *Ex parte Slob* (PO BdApp) 157 USPQ 172, where it was held that [c]laims merely setting forth physical characteristics desired in an article, and not setting forth specific compositions which would meet such characteristics, are invalid as vague, indefinite, and functional since they cover any conceivable combination of ingredients either presently existing or which might be discovered in future and which would impart desired characteristics; thus, the expression “wherein the fat phase comprises at least two components (D) and (E), (D) having an N20>20...” is too broad and indefinite since it purports to cover everything which will perform the desired functions regardless of its composition, and, in effect, recites compounds by what it is desired that they do rather than what they are.

9. Claim 13 recites the limitation ‘essentially free of trans fatty acids’ in line 2. The scope of the claim is indefinite since it is unclear what quantity of trans fatty acids can be present in the product.

Claim Objections

10. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

dependent form, or rewrite the claim(s) in independent form. The comparative properties claimed in claim 16 are inherent to the product of claim 1, thus claim 16 fails to further limit claim 1.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under

37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. **Claims 1-2,7,14-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (US 5,466,453) in view of Lim (US 5,690,984).

15. **Regarding claims 1, 2 and 7** Uchida discloses a food product comprising a fat continuous emulsion such as mayonnaise or dressings (cooking spreads) (column 5, lines 25-34) into which an aqueous extract of pine leaves (needles) is incorporated (column 2, lines 35-46). Uchida fails to explicitly state that the pine needle extract contains less than 0.01% wt % of isocupressic acid.

16. However, Lim discloses producing aqueous pine needle extracts using methods that eliminate terpenes from the extracts (column 1, lines 25-42). The elimination of terpenes from the extract would therefore include the elimination of compounds of the isocupressic acid family, as those compounds are terpenes. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the product of Uchida by using a pine needle extract produced to have low terpene content as disclosed in Lim, because terpenes impart a bitter taste and a pungent, unpleasant odor on food products (column 1, lines 25-30).

17. Although Lim fails to explicitly state the quantity of isocupressic acid remaining following the removal of terpenes from the extract, it would have been obvious to one having ordinary skill in the art at the time of the invention to substantially eliminate terpenes (and therefore members of the isocupressic acid family) from the extract to provide a isocupressic acid content of less than 0.01 wt% in order to eliminate bitter flavor and unpleasant odor, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*.
18. **Regarding claim 14**, Uchida discloses adding the pine needle extract to food products in quantities of 0.1-5 wt% (column 4, lines 5-19).
19. **Regarding claim 15**, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.
20. Further, Uchida recognizes that using pine extracts reduces hypertension (column 1, lines 25-32).
21. **Regarding claim 16**, Uchida and Lim disclose the product of claim 1. The product disclosed by Uchida and Lim intrinsically possesses the claimed comparative properties.

22. **Claims 3-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (US 5,466,453) in view of Lim (US 5,690,984) as applied to claim 1, and as evidenced by Kerepova ('The Chemical Composition of Aqueous Extracts of Coniferous Needles', NPL Document 1).

23. **Regarding claims 3-6** Uchida and Lim disclose the product of claim 1, but fails to explicitly state the compounds present in the pine extract. However, Kerepova discloses that type A compounds such as phenolic compounds and organic acids are present in amounts of at least 9.8% by weight of the extract (page 2, first table), and type B compounds such as proteins are present in amounts of at least 2.7% by weight by weight of the extract.

24. **Regarding claim 6**, Uchida discloses incorporating the extract in an ice cream comprising 10% egg yolks and 10% cream, therefore providing an emulsion which comprises at least 0.5% fat, but less than 99.5% fat (Example 8).

25. **Claims 7-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (US 5,466,453) in view of Lim (US 5,690,984), as evidenced by Kerepova ('The Chemical Composition of Aqueous Extracts of Coniferous Needles', NPL Document 1) and in further view of Sundram (US 5,874,117).

26. Uchida and Lim as evidenced by Kerepova disclose the product of claim 5.

Uchida discloses producing a cooking spread such as mayonnaise, but does not provide a recipe showing the types and amounts of fat used.

27. However, Sundram discloses mayonnaise and dressing products (column 4, lines 19-24), which comprise a component (D) such as palm fractions (column 4, lines 1-14), and a component (E) such as corn oil (column 3, lines 64-67).

28. Regarding claims 8, 9 and 11, the use of the fats as claimed in the fat phase will intrinsically result in the fat phase having the claimed NMR properties and levels of unsaturated fatty acids. Further regarding claim 9, Sundram discloses using the shortening comprising corn oil and palm fractions to produce a mayonnaise. It is well known in the art that mayonnaises are produced by mixing egg (which contains water), vinegar or lemon juice, and a shortening. It would have been obvious to one having ordinary skill in the art at the time of the invention to adjust the fat content of the mayonnaise between 0.5% and 99.5% according to the texture and flavor (determined by the ratio of vinegar, egg and shortening) desired for the intended purpose, since it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. See *In re Boesch*.

29. It would have been obvious to one having ordinary skill in the art to produce the cooking spread using the fat blend disclosed in Sundram, because fat blends produced from palm fractions and corn oil are stabilized against oxidation (column 4, lines 1-5).

30. Regarding claim 13, since the product disclosed by Uchida, Lim, and Sundram as evidenced by Kerepova is intrinsically free of trans-fat containing compounds, it will be essentially free of trans-fatty acids.

31. **Claims 17-19 are** rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida (US 5,466,453) in view of Lim (US 5,690,984) as evidenced by Grill (Acids in conifer needles).

32. Regarding claim 17, Uchida and Lim disclose the product of claim 1, but fail to explicitly state that the pine needle extract comprises shikimic and/or quinic acid. However, Grill discloses that most of the acids extracted from pine needles are quinic and shikimic (paragraph 1), demonstrating that they are intrinsically present in the pine needle extract used in the product of Uchida and Lim.

33. Regarding claims 18 and 19, Uchida and Lim are silent regarding the shikimic and quinic acid content of the aqueous pine needle extract used. However, given Grill's disclosure that quinic and shikimic acids are major extractable components of pine needles, and the data provided on a prior art aqueous pine extract (Table 1 of the

present specification), which shows that an aqueous extract of pine needles which has not been subjected to a terpene reducing step contains 4.0 % D-quinic acid and 17.0% shikimic acid, it is prima facie inherent that an aqueous extract of pine needles as required by Lim will contain shikimic acid in the claimed amount, and quinic acid in an amount that, if not in the claimed range, is substantially close to the claimed range, in an amount that is in such close proportions to be prima facie obvious, and to have the same properties. *Titanium Metals Corp.*, 227 USPQ 773 (CA FC 1985).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW KRAUSE whose telephone number is (571)270-7094. The examiner can normally be reached on 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ANDREW KRAUSE/
Examiner, Art Unit 1794

/KEITH D. HENDRICKS/
Supervisory Patent Examiner, Art Unit 1794